

## SPECIFICATION AMENDMENTS

Please amend the paragraph beginning on page 13, line 29, as follows:

Another benefit of the hybrid battery power source 20 that has not been previously disclosed in the prior art is the capability to regulate the flow of recharge energy from the primary battery "A" to the secondary battery "B." Regulation of the rechargeable battery charge state is a necessity for optimum energy storage because of the effects of irreversible discharge capacity fade and increased cell internal resistance as a lithium-ion rechargeable cell is cycled. In particular, as reported by Spotnitz, R., "Simulation of Capacity Fade in Lithium-ion Batteries", *Journal of Power Sources*, 113, 72-80, (2003), the maximum SOC applied to a lithium-ion cell as well as the depth of discharge affects capacity fade and internal resistance. In conventional rechargeable battery applications where the batteries may be readily replaced, the practice is to maximize the charge and depth of discharge in order to obtain maximum output capacity from the battery. However, in high energy medical device applications, applicants have determined that limiting maximum SOC and depth of discharge are necessary in order to ensure optimal pulse delivery characteristics. For a lithium-ion cell, charging to a maximum SOC of 3.9 V and attempting to limit the depth of discharge to  $\Delta 0.2$  V (3.7 V minimum SOC) should provide adequate energy output while minimizing capacity fade and internal resistance increase over time. Additional data on the relationship between SOC and internal resistance for lithium-ion batteries has been reported by Wright, R.B. et.al. in "Calendar- and cycle-life studies of advanced technology development program generation I lithium-ion batteries", *Journal of Power Sources*, 110, 445-470, (2002).